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ABSTRACT OF THE DISCLOSURE

The present invention pertains to a more efficient system and method for forming
rectifying junction contacts in PIN alloy-semiconductor devices using photoelectrical and
chemical etching. The present invention provides a means of creating rectifying junction
contacts on alloy-semiconductor devices such as CdTe and CdZnTe, among others. In addition
the present invention also provides a simple and low cost method for revealing wafer surface
morphology of alloy-semiconductors, thus providing an efficient and effective means for
selecting single grain semiconductor substrates. Further, the present invention provides
radiation detectors employing such alloy-semiconductor devices having improved rectifying
junctions as the detector element.